Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-5. (Cancelled).

6. (Previously Presented) A military vehicle comprising:

a power distribution and control system, the power distribution and control system further including

(A) a power source;

(B) a power transmission link;

(C) a plurality of input devices;

(D) a plurality of output devices;

(E) a communication network;

(F) a plurality of microprocessor-based interface modules, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, and the plurality of interface modules being coupled to the plurality of input devices and to the plurality of output devices, and the plurality of interface modules including

(1) a first microprocessor-based interface module, the first interface module being coupled to a first subset of the plurality of input devices and to a first subset of the plurality of output devices, the first interface module having a first data memory that stores input status information for all of the plurality of input devices, and the first interface module including a first control program that is executable by the first interface module to control the first subset of the plurality of output devices based on input status information from the plurality of input devices stored in the first data memory,

(2) a second microprocessor-based interface module, the second interface module being coupled to a second subset of the plurality of input devices and to a second subset of the plurality of output devices, the second interface module having a second data memory that stores input status

information for all of the plurality of input devices, the second interface module including a second control program that is executable by the second interface module to control the second subset of the plurality of output devices based on input status information from the plurality of input devices stored in the second data memory, and

(3) a plurality of additional microprocessor-based interface modules, the plurality of additional interface modules each being coupled to a respective additional subset of the plurality of input devices and to a respective additional subset of the plurality of output devices, the plurality of additional interface modules each including an additional control program that is executable to control the respective additional subset of the plurality of output devices based on input status information from the plurality of input devices;

wherein the plurality of interface modules, the plurality of input devices, and the plurality of output devices are distributed throughout the military vehicle.

7. (Previously Presented) A military vehicle according to claim 6, wherein each of the plurality of interface modules is physically and functionally interchangeable with each remaining one of the plurality of interface modules.

8. (Previously Presented) A military vehicle according to claim 6, wherein the military vehicle is a multipurpose modular vehicle and comprises a chassis and a variant module, the variant module being mounted on the chassis, the chassis and the variant module cooperating to provide the military vehicle with a first type of functionality, and the variant module being removable and replaceable with other variant modules to form other military vehicles with other different types of functionality.

9. (Previously Presented) A military vehicle according to claim 8, wherein the plurality of interface modules are physically and functionally interchangeable with interface modules utilized by the other variant modules.

10. (Previously Presented) A military vehicle according to claim 6, wherein the first control program, the second control program and the additional control programs are substantially identical.

11-22. (Cancelled).

23. (Previously Presented) A multipurpose modular vehicle comprising:

a chassis and a variant module, the variant module being mounted on the chassis, the chassis and the variant module cooperating to provide the vehicle with a first type of functionality, and the variant module being removable and replaceable with other variant modules to form other vehicles with other substantially different types of overall functionality, and wherein the chassis and the variant module in combination include a power distribution and control system, the power distribution and control system further including

(A) a power source;

(B) a power transmission link;

(C) a plurality of input devices;

(D) a plurality of output devices;

(E) a communication network;

(F) a plurality of microprocessor-based interface modules, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, and the plurality of interface modules being coupled to the plurality of input devices and to the plurality of output devices, and the plurality of interface modules including

(1) a first microprocessor-based interface module, the first interface module being coupled to a first subset of the plurality of input devices and to a first subset of the plurality of output devices, the first interface module having a first data memory that stores input status information for all of the plurality of input devices, and the first interface module including a first control program that is executable by the first interface module to control the first subset of the plurality of output devices based on input status information from the plurality of input devices stored in the first data memory,

(2) a second microprocessor-based interface module, the second interface module being coupled to a second subset of the plurality of input devices and to a second subset of the plurality of output devices, the second interface module having a second data memory that stores input status information for all of the plurality of input devices, the second interface module including a second control program that is executable by the second interface module to control the second subset of the plurality of output devices based on input status information from the plurality of input devices stored in the second data memory, and

(3) a plurality of additional microprocessor-based interface modules, the plurality of additional interface modules each being coupled to a respective additional subset of the plurality of input devices and to a respective additional subset of the plurality of output devices, the plurality of additional interface modules each including an additional program that is executable to control the respective additional subset of the plurality of output devices based on input status information from the plurality of input devices;

wherein the plurality of interface modules, the plurality of input devices, and the plurality of output devices are distributed throughout the vehicle; and

wherein each respective interface module is locally disposed with respect to the respective input and output devices to which the respective interface module is coupled so as to permit distributed data collection from the plurality of input devices and distributed power distribution to the plurality of output devices.

24. (Previously Presented) A vehicle system according to claim 23, wherein the chassis and the variant module respectively include first and second mating connectors, and wherein the first connector is also functionally and physically mateable with connectors used by the other variant modules.

25. (Previously Presented) A vehicle system according to claim 23, wherein the interface modules are interchangeable with interface modules used by the other variant modules.

26. (Previously Presented) A vehicle system according to claim 23, wherein the control system includes a plurality of switches that are located in a driver area of the vehicle, and wherein the plurality of switches has variable functionality depending on which variant module is mounted on the chassis.

27. (Previously Presented) A vehicle comprising:

a power distribution and control system, the power distribution and control system further including

(A) a power source;

(B) a power transmission link;

(C) a plurality of input devices;

(D) a plurality of output devices;

(E) a communication network;

(F) a plurality of microprocessor-based interface modules, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, and the plurality of interface modules being coupled to the plurality of input devices and to the plurality of output devices by way of respective dedicated communication links, and the plurality of interface modules including

(1) a first microprocessor-based interface module,

(2) a second microprocessor-based interface module, and

(3) a plurality of additional microprocessor-based interface modules; and

wherein the plurality of interface modules, the plurality of input devices, and the plurality of output devices are distributed throughout the vehicle;

wherein each of the plurality of interface modules are coupled to a respective local subset of the plurality of input devices and to a respective local subset of the plurality of output devices so as to permit distributed data collection from the plurality of input devices and distributed power distribution to the plurality of output devices; and

wherein each of the plurality of interface modules collects input status information from the respective local subset of the plurality of input devices and broadcasts the input status information over the communication network to each of the remaining ones of the plurality of interface modules at least once during a predetermined amount of time, each of the remaining ones of the plurality of interface modules receiving the input status information and locally storing the input status information.

28. (Previously Presented) A vehicle according to claim 27, wherein the broadcasts of the input status information occur asynchronously.

29-34. (Cancelled).

35. (Previously Presented) A multipurpose modular vehicle comprising:

a chassis and a variant module, the variant module being mounted on the chassis and the weight of the variant module being supported by the chassis, the variant module including a mechanical drive device capable of imparting motion to solid or liquid matter that is not part of the vehicle to provide the vehicle with a first type of functionality, and the variant module being removable and replaceable with other variant modules having other mechanical drive devices to provide the vehicle with other types of overall functionality, and wherein the vehicle comprises a power distribution and control system, the power distribution and control system further including

(A) a power source;

(B) a power transmission link;

(C) a plurality of input devices;

(D) a plurality of output devices;

(E) a communication network;

(F) a plurality of microprocessor-based interface modules, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, and each of the plurality of interface modules being coupled to respective ones of the plurality of input devices and to the plurality of output devices;

wherein the plurality of interface modules cooperate to control the plurality of output devices based on input status information from the plurality of input devices.

36. (Previously Presented) A multipurpose modular vehicle comprising:

(A) a power distribution and control system, the power distribution and control system further including

(1) a power source,

(2) a power transmission link,

(3) a plurality of input devices,

(4) a plurality of output devices, and

(5) a plurality of microprocessor-based interface modules, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, the plurality of interface modules including first and second interface modules and a plurality of additional interface modules distributed throughout the vehicle, each of the plurality of interface modules being coupled to respective ones of the plurality of input devices and to the plurality of output devices, the plurality of interface modules cooperating to control the plurality of output devices based on input status information from the plurality of input devices;

(B) a chassis; and

(C) a variant module, the variant module being mounted on the chassis and the weight of the variant module being supported by the chassis, the variant module including a mechanical drive device capable of imparting motion to solid or liquid matter that is not part of the vehicle to provide the vehicle with a first type of functionality, the variant module being removable and replaceable with other variant modules to substantially alter the overall functionality of the vehicle.

37. (Previously Presented) A control method for an equipment service vehicle having a plurality of input devices, a plurality of output devices, and a plurality of microprocessor-based interface modules, the plurality of interface modules including first and second interface modules and a plurality of additional interface modules distributed

throughout the vehicle, the plurality of interface modules being connected to each other by way of a communication network, and the plurality of interface modules being connected to respective ones of the plurality of input and output devices, the method comprising:

(A) storing I/O status information at each respective one of the plurality of interface modules, including (1) storing I/O status information acquired locally by the respective interface module from a subset of the plurality of input devices, the subset of the plurality of input devices being connected to the respective interface module, and (2) storing I/O status information received by way of the communication network from remaining ones of the plurality of interface modules;

(B) processing the I/O status information at each respective one of the plurality of interface modules to determine desired output states for a subset of the plurality of output devices, the subset of the plurality of output devices being connected to the respective interface module; and

(C) controlling the plurality of output devices in accordance with the desired output states using the plurality of interface modules; and

wherein each of the plurality of interface modules stores I/O status information for all of the plurality of input devices and all of the plurality of output devices, including the input devices and output devices that are connected to other interface modules.

38. (Previously Presented) A method according to claim 37, wherein all of the desired output states are determined entirely locally at the respective interface modules to which the output devices are connected based on the I/O status information acquired locally and/or based on the I/O status information received by way of the communication network.

39. (Previously Presented) A method according to claim 37, wherein the I/O status information stored in each of the plurality of interface modules, including the I/O status information received from the remaining ones of the plurality of interface modules, is dynamically updated in real-time.

40. (Previously Presented) A control method for an equipment service vehicle having a plurality of input devices, a plurality of output devices, and a plurality of microprocessor-based interface modules, the plurality of interface modules including first and

second interface modules and a plurality of additional interface modules distributed throughout the vehicle, the plurality of interface modules being connected to each other by way of a communication network, and the plurality of interface modules being connected to respective ones of the plurality of input and output devices, the method comprising:

(A) storing I/O status information at each respective one of the plurality of interface modules, including (1) storing I/O status information acquired locally by the respective interface module from a subset of the plurality of input devices, the subset of the plurality of input devices being connected to the respective interface module, and (2) storing I/O status information received by way of the communication network from at least some remaining ones of the plurality of interface modules;

(B) processing the I/O status information at each respective one of the plurality of interface modules to determine desired output states for a subset of the plurality of output devices, the subset of the plurality of output devices being connected to the respective interface module; and

(C) controlling the plurality of output devices in accordance with the desired output states using the plurality of interface modules; and

wherein all of the desired output states are determined locally at the respective interface module to which the output devices are connected based on the I/O status information acquired locally and/or based on the I/O status information received by way of the communication network.

41-45. (Cancelled).

46. (Previously Presented) A vehicle comprising

a power distribution and control system, the power distribution and control system further comprising

(A) a power source;

(B) a power transmission link;

(C) a communication network;

(D) a plurality of microprocessor-based interface modules, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each

other by way of the communication network, and the plurality of interface modules including

(1) a first microprocessor-based interface module, the first interface module being coupled to a first plurality of input devices and to a first plurality of output devices;

(2) a second microprocessor-based interface module, the second interface module being coupled to a second plurality of input devices and to a second plurality of output devices;

(3) a plurality of additional microprocessor-based interface modules, the plurality of additional interface modules each being coupled to a respective additional plurality of input devices and to a respective additional plurality of output devices;

wherein the first interface module, second interface module, and plurality of additional interface modules each comprises a respective data memory that stores the input status information for all of the first plurality of input devices, the second plurality of input devices, and the additional pluralities of input devices; and

wherein the first interface module, the second interface module, and the plurality of additional interface modules are configured to control the first plurality of output devices, the second plurality of output devices, and the additional pluralities of output devices, respectively, based on input status information stored in the respective data memory of each respective interface module;

wherein the plurality of interface modules are distributed throughout the vehicle.

47. (Previously Presented) A vehicle according to claim 46, wherein each of the plurality of interface modules is physically and functionally interchangeable with each remaining one of the plurality of interface modules.